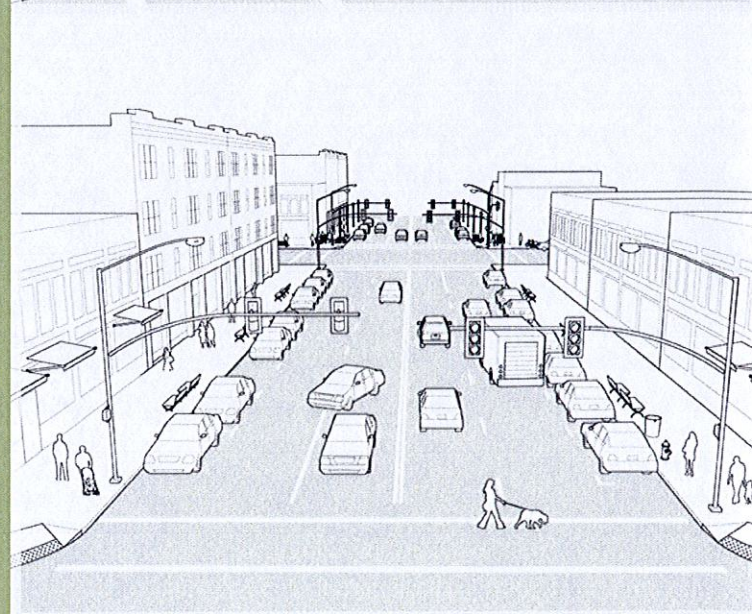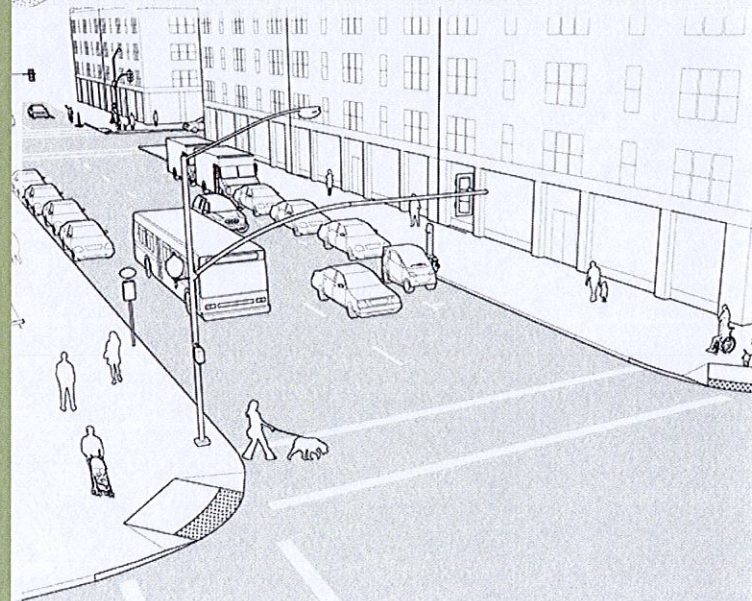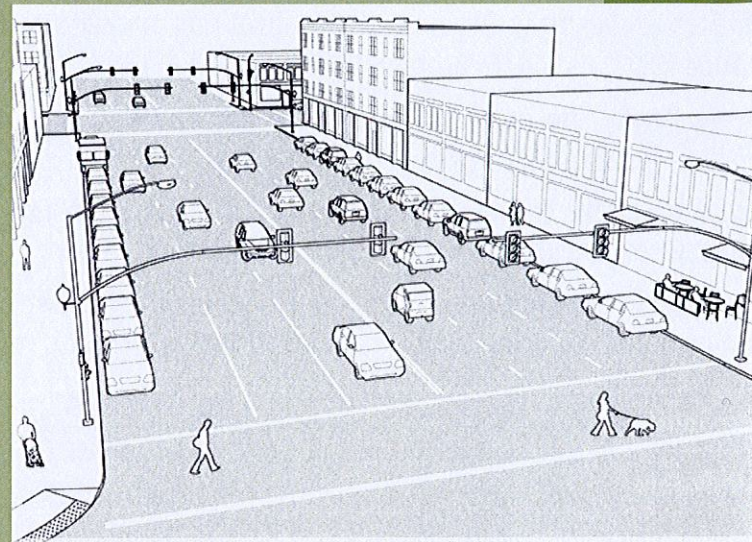### Downtown Thoroughfare

A major 2-way downtown arterial with 6-8 lanes of traffic. This street runs directly through the heart of the city and is a major connector to other neighborhoods. The street has heavy turn volumes and multiple signal phases, making it a barrier for people to cross.

Downtown Thoroughfare

A parking-buffered protected bike lane applied on each side of the street, offers a high-quality experience to bicyclists while providing a buffer between the sidewalk and automobile traffic. Pedestrian refuge islands can shorten the crossing distance for pedestrians while reducing speeding. Street trees and pedestrian lighting create a more welcoming space.
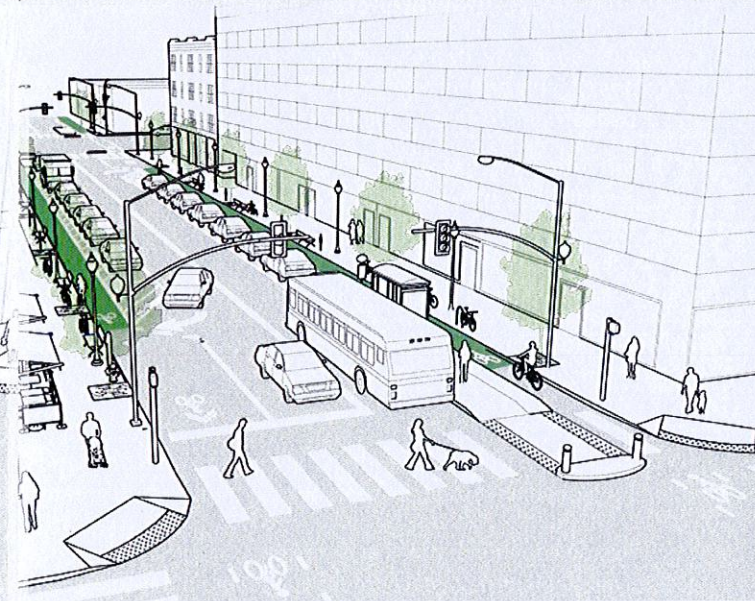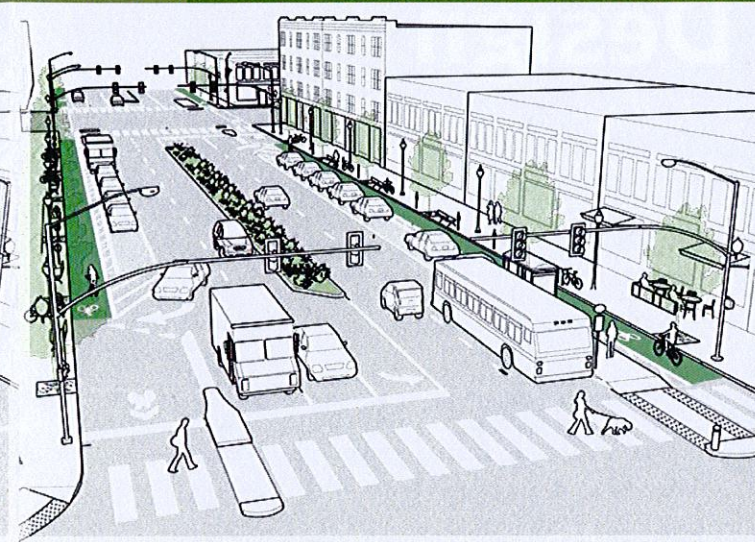
Downtown One-Way Street

Many of these streets have been designed for a 15-minute peak period and remain well below capacity at other times of day. Undifferentiated street space and wide travel lanes can result in higher speeds and are an ineffective use of valuable street space. Bicyclists feel uncomfortable riding between fast-moving traffic and the door zone.

Downtown Two-Way Street

Converting back two-way streets can make better use of the space while reducing speeding, increasing safety, and improving visibility of local businesses. Lane diets and conventional bike lanes or protected bike lanes decrease the overall width and offer higher-quality bicycle facilities.

Neighborhood Main Street

A main street with 4 lanes of traffic. With medium traffic volumes and high pedestrian activity, the street has significant potential for regeneration as a retail district, yet currently underperforms for those who shop, eat, and walk there. Frequent destinations have resulted in multiple turning and weaving conflicts along the street.

Neighborhood Main Street

Main street design should limit traffic speeds and create a narrower cross section with frequent, well-designed pedestrian crossings. In recent years, many main streets have been significantly improved through road diets and the conversion from 4 to 3 (or 6 to 5) lanes of travel with bike lanes and a center turning lane or median.

Produced by: MPO DES MOINES AREA METROPOLITAN PLANNING ORGANIZATION

Flexible Street Design

Local governments have many design resources available to them, each providing different degrees of flexibility and emphasis on walkable, urban design. Iowa DOT generally chooses SUDAS as the default manual, but others are used throughout the United States to create more context-sensitive, walkable streets.
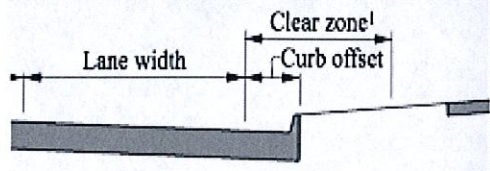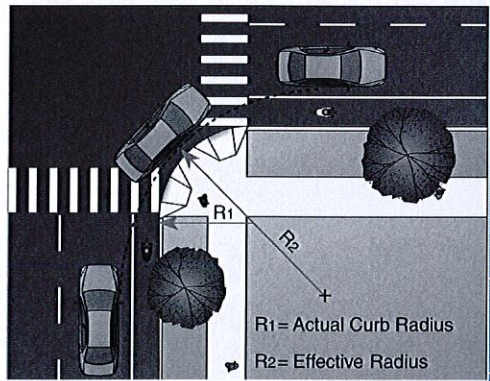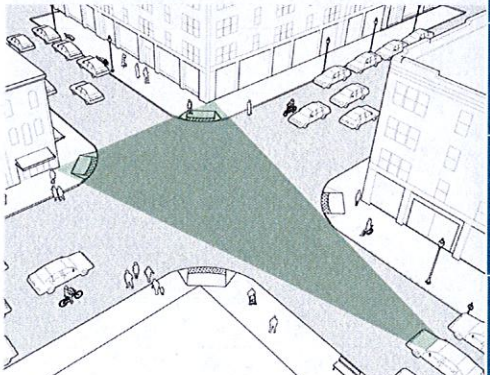
Prevalent Design Manuals

SUDAS: The Statewide Urban Design and Specifications manual was developed in the 1980s to create uniform urban design to reduce costs and contractor issues. Only used in Iowa.

AASHTO Green Book: The 'design bible' produced by The American Association of State Highway and Transportation Officials. Most commonly used national guidelines.

ITE Designing a Walkable Urban Thoroughfare: The Institute of Transportation Engineers produced a context sensitive guide for walkable, urban communities.

NACTO Urban Street Design Guide: A toolbox for cities to create safer, more livable, and more economically viable streets by the National Association of City Transportation Officials.

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Curb Offset and Clear Zone

Curb Radius

R1 = Actual Curb Radius
R2 = Effective Radius

Sight Triangle

		Potential Impacts	Less Flexibility / Less Walkable — SUDAS "Preferred Treatment"	AASHTO	ITE	More Flexibility / More Walkable — NACTO
Curb Offset and Clear Zone	Minimum Lane Width	Travel lanes over 10 feet encourage cars to drive faster and increases the distance pedestrians have to cross the street	12 feet	10 feet	10 feet	10 feet
	Curb Offset	A curb offset increases the effective lane width and encourages speeding	2 – 3 feet	1 – 2 feet	N/A	N/A
	Clear Zone (40 mph or less)	Clear zones in urban setting can prevent street trees, cafe seating and other amenities	10 feet	Encourages the use of a reduced clear zone in urban areas	Not used on low-speed urban thoroughfares	Recommends not using minimum setback requirements for clear zone
Curb Radius	Minimum Curb Radius	A larger radius increases the turning speed of cars at the intersection making it less safe for others	25 feet	Based on the largest design vehicle that will use the facility frequently	5 feet	2 feet (should rarely exceed 15 feet)
	Design Speed	A design speed that's higher than the posted speed encourages speeding	Recommends design speed at least 5 mph greater than the posted speed	Recommends using a design speed that fits the surrounding context	Design speed = target speed	Design speed = posted speed
	Street Types	Using Functional Class as a design determinant ignores local context and leads to auto-centric design that's unwelcoming for pedestrians	Based on Functional Classification; no consideration for surrounding context	Based on Functional Classification; little or no consideration for surrounding context	Uses boulevard, avenue, and street classifications. Emphasis on surrounding context.	Does not use Functional Classification; emphasis placed on surrounding context
	On-Street Parking	On-street parking is a crucial buffer between people walking and car traffic	Not allowed on arterial streets	Allowed depending on context	Highly encouraged depending on context	Highly encouraged depending on context
Sight Triangle	Minimum Parking Lane Width	Wider parking lanes take up valuable space and increases the crossing distance for pedestrians	8 feet	8 feet	7 – 8 feet	7 feet
	Street Trees	Street trees create welcoming spaces, buffer pedestrians from car traffic, and reduces speeding	Design criteria discourages the use of trees in public right-of-way	Doesn't discuss street trees in any detail	Encourages use of street trees along all streets with pedestrian accommodation	Encourages the use of street trees along all streets with pedestrian accommodation
	Sight Distance and Sight Lines at Intersections	Sight triangles in urban areas push buildings further from the street and preclude street trees, making for uncomfortable and unwelcoming pedestrian spaces	Recommends sight triangles at all intersections and removing roadside objects that obstruct the driver's view	Sight triangles not necessary at controlled intersections	Sight triangles not necessary at controlled intersections	Not necessary at controlled intersections; use other design measures to reduce speeds
	Bike Lane Options	A low-stress urban bike network gets more people riding and creates safer streets	Shared lanes, wide outside lanes, bike lanes, bike boulevards	Shared lanes, wide outside lanes, bike lanes, bike boulevards	N/A	Bike lanes, buffered bike lanes, protected bike lanes, bike boulevards